mutants with a MIC of 64 mg/L were generated (frequency ~10^{-7}) and are being characterized at the molecular level to decipher mechanism of action of these compounds.

Conclusion: A series of 2-Aryl indole-based 2,3-epoxy-1,4-naphthoquinones have been synthesized with potent anti-MRSA activity. These compounds potentially deplete thiols, thus enhancing ROS in bacteria, which might help in overcoming drug resistance.

http://dx.doi.org/10.1016/j.ijid.2016.02.262

Type: Poster Presentation

Final Abstract Number: 41.068
Session: Poster Session I
Date: Thursday, March 3, 2016
Time: 12:45-14:15
Room: Hall 3 (Posters & Exhibition)

Susceptibility pattern of healthcare-associated methicillin resistant staphylococcus aureus to Vancomycin and Daptomycin

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Background: Healthcare-associated methicillin resistant *Staphylococcus aureus* (HA-MRSA) is a major pathogen. Vancomycin is used in the treatment of serious infection caused by HA-MRSA. However, the emergence of Vancomycin intermediate *S.aureus* (VISA) and vancomycin resistant *S.aureus* (VRSA) is a matter of concern. The present study was conducted to determine minimum inhibitory concentration (MIC) of vancomycin and daptomycin among HA-MRSA in our healthcare settings.

Methods & Materials: A total of 110 HA-MRSA isolates (as defined by Centres for Disease Control and Prevention criteria) were collected over a period of seventeen months. Vancomycin MIC was determined by agar dilution method according to CLSI guidelines. Daptomycin MIC was determined by E-test (BioMerieux, France).

Results: Out of the total HA-MRSA isolated, 53.6% (59/110) had vancomycin MIC of 2μg/ml. Intermediate resistance to vancomycin was detected in 03.6% (04/110) of the HA-MRSA and these isolates had a vancomycin MIC of 4μg/ml. All HA-MRSA isolated were sensitive to daptomycin.

Conclusion: Occurrence of VISA among the HA-MRSA is a matter of concern. As these strains do not respond to vancomycin treatment hence their detection is crucial. VISA cannot be detected by routine disk diffusion method. Determination of MIC of vancomycin is necessary for the detection of VISA. Daptomycin can be effectively used in the treatment of infections caused by VISA isolates in our healthcare settings as resistance to this antibiotic has not yet been observed.

http://dx.doi.org/10.1016/j.ijid.2016.02.263

Final Abstract Number: 41.069
Session: Poster Session I
Date: Thursday, March 3, 2016
Time: 12:45-14:15
Room: Hall 3 (Posters & Exhibition)

Prevalence and antibiotic sensitivity of Staphylococcus aureus and Pseudomanas aeruginosa in middle ear fluids of chronic suppurative otitis media and chronic rhinosinusitis patients undergoing ear surgery

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Background: Chronic Suppurative Otitis Media (CSOM) and Chronic Rhinosinusitis (CRS) are strongly associated common diseases with a significant impact on people's quality of life worldwide. Emergence of antimicrobial resistance of the causative microbes poses problem in management of the disease. The present study aimed to find the microbial prevalence and compare the antibiotic sensitivity in middle ear fluid isolates of CSOM and CRS patients with CSOM in South Indian population.

Methods & Materials: 86 subjects with CSOM and 68 patients with CRS undergoing ear surgery at a MAA ENT Hospitals, Hyderabad, South India between 2009 and 2015 were included in the study. The middle ear aspirates were collected aseptically, cultured by conventional methods and tested for antibiotic sensitivity using Kirby Bauer disc diffusion method. Chi-square analysis was performed to test the difference between the two groups.

Results: The present study included 99 males and 57 females with mean age of 34.06 ± 19.215yrs. Significant difference in prevalence of bacterial isolates with respect to sex and age was seen between the two groups (table 1). The most frequent microbial isolates in CSOM subjects was Pseudomonas aeruginosa (24%) followed by Staphylococcus aureus (19%) whereas in CRS with CSOM subjects, Staphylococcus aureus was 45% and Pseudomonas aeruginosa was 20%. Antibiotic susceptibility of staphylococcus aureus was high to cefotaxime, amikacin and gentamicin in both the groups. Antibiotic resistance of staphylococcus to ciproflaxacin is 78.8% and vancomycin is 55% in CSOM subjects . High rate of antibiotic sensitivity of Pseudomonas aeroginosa was observed for imipenem, piperacillin tazobactam, cefotaxime and amikacin in both the subgorups. Antibiotic resistance of Pseudomonas aeroginosa to ciproflaxacin is 55%, Gentamicin 47.2% and Cefepime 50% in CSOM subjects. Antibiotic resistance of Pseudomonas aeroginosa was not seen in CRS with CSOM subjects (Table 2).